

## REMARKS

### **I.     Introduction**

Claims 9, 12, 13, 15, 18 and 19 are currently pending. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### **II.    Rejection of Claims 9, 12, 13, 15, 18 and 19**

Claims 9, 12, 13, 15, 18 and 19 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In particular, with respect to independent claims 18 and 19, the Office Action alleges that the feature "detecting an error in a state of congestion derived based on exhaust gas flow rate" is considered "new matter since the originally filed disclosure does not contain any support for the invention as now claimed." Furthermore, the Examiner has objected to the Amendment dated October 14, 2004, under 35 U.S.C. 132, because the Amendment "introduces new matter into the disclosure," i.e., "[t]he added material which is not supported by the original disclosure is as follows: detecting an error in a state of congestion derived based on exhaust gas flow rate." Applicants respectfully traverse this allegation and submit that the originally filed specification provides adequate support for the subject matter of claims 18 and 19, as explained below.

In FIGS. 1, 2 and 4, and in the accompanying texts of the original specification, the claimed feature "detecting an error in a state of congestion derived based on exhaust gas flow rate" is clearly supported. For example, in connection with Fig. 1, the section of the original specification at page 6, lines 13-21, provides the following description:

It is particularly advantageous to measure *the state of congestion via differential-pressure sensor 120* in addition to calculating it. *In this case, the system can be monitored for errors. This means using simulated quantity B and measured quantity BI of the state of congestion to detect errors in the exhaust treatment system.* When an error in differential-pressure sensor 120 is detected, an emergency mode can be implemented to control the exhaust treatment system, using the simulated quantity that characterizes the state of congestion. (Emphasis added).

In addition, in connection with Fig. 1, the section of the original specification at page 3, lines 16-22, indicates the following: “Sensors 120a and 120b are provided upstream from primary catalytic converter 112 and downstream from filter 114, respectively. These sensors act as *differential-pressure sensors 120 and provide a differential-pressure signal DP, which characterizes the differential pressure between the inlet and outlet of the exhaust treatment means.*” (Emphasis added).

Furthermore, the section of the original specification beginning at page 9, line 26 and ending at page 11, line 2, provides the following description:

Figure 4 shows a further especially advantageous embodiment. Reference number 400 designates the simulation element illustrated in Figure 2 to calculate state of congestion B. This simulation element 400 supplies a signal B for the state of congestion of filter 114. A further calculation element 420 is provided, to which output signal DP of differential-pressure sensor 120 is supplied. Both simulation element 400 and calculation element 420 supply signals to a switching means 410, which selects one or another of the signals and provides it to control system 130. Switching means 410 is controlled by an error detector 415.

*Based on differential pressure DP, which is measured by differential-pressure sensor 120, air flow rate V can be calculated according to the following formula:*

$$V = \frac{MH * R * T}{P + DP}$$

where quantity MH corresponds to the air rate measured by a sensor, while quantity R is a constant. *Based on the air flow rate calculated in this manner, a characteristic map can preferably be used to calculate state of congestion BI.*

*The exhaust treatment system is controlled during normal operation based on this state of congestion BI. If an error occurs in the exhaust treatment system, in particular when detecting or recording differential pressure DP, error detector 415 controls switching means 410 so that signal B of simulation element 400 is used to control the exhaust treatment system.*

In emergency mode, quantity (B) is used to control the exhaust treatment system. The system is controlled as a function of quantity (B), which characterizes the state of congestion, and/or additional signals. The simulated quantity can be used to implement a very accurate emergency mode. When used only in emergency mode, it is especially advantageous to use a simple simulation with only a few signals.

*It is particularly advantageous to check the plausibility of calculated quantity (BI) and simulated quantity (B) of the state of congestion and to detect an error in the exhaust treatment system in the event of implausibility.*

Implausibility is detected, for example, when the difference between the two quantities is greater than a threshold value. This means that quantity (B) of the state of congestion is used to detect the error. This procedure is a simple and accurate error detection method. (Emphasis added).

As can be seen from the above-quoted sections of the original specification, it is clear that the differential pressure sensor 120 which measures the differential pressure DP is located in the **exhaust gas treatment area**, and the differential pressure DP is used to calculate the “air flow rate V,” which is in turn used to calculate the **state of congestion BI**. Since the differential pressure sensor 120 is located in the **exhaust gas treatment area**, it is quite clear that the “air flow rate V” calculated from the differential pressure DP is the **flow rate of the exhaust gas**, not fresh air drawn in by the intake of the internal combustion engine. Furthermore, the above-quoted sections of the original specification clearly discuss: a) detecting an error in differential pressure DP, which is ultimately used to determine the state of congestion BI; and b) checking for plausibility of the calculated state of congestion BI to detect an error. Applicants note that the claimed features need not be described in the specification using identical words, and the support in the specification may be implicit or inherent. MPEP 2163 (I)(B). In view of the above-quotes sections of the original specification, it is respectfully submitted that the claimed feature “detecting an error in a state of congestion derived based on exhaust gas flow rate” is at least implicitly and/or inherently described in the original specification in sufficient detail that one skilled in the art can reasonably conclude that the inventors had possession of the claimed invention at the time of filing the application. MPEP 2163(I).

It is accordingly submitted that the originally filed specification satisfies the written description requirement and provides support for claims 18 and 19, as well as their dependent claims 9, 12, 13 and 15.

In view of the foregoing, withdrawal of the rejection of the pending claims 9, 12, 13, 15, 18 and 19 under 35 U.S.C. 112, first paragraph, is respectfully requested. Furthermore, withdrawal of the objection under 35 U.S.C. 132 (to the Amendment mailed on 10/14/04) is requested.

### III. Conclusion


It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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